Peter Morgan, MD, PhD
365 Montauk Avenue
New London, CT 06320

February 3, 2021

Tom Jacob
7500 Rialto Blvd.
Bldg. Two, Ste 250
Austin, TX 78745

RE: Tommy Byrd (DOB: 5/13/1958)

REPORT

Dear Attorney Jacob,

I am a physician board certified in psychiatry and am familiar with the standard of care for physicians and staff who are practicing in the field of psychiatry. I was asked by you to review medical records associated with the treatment Tommy Byrd received at the Atlanta Veteran's Administration Hospital in November 2016. In particular I was asked to formulate an opinion as to whether there were deviations from the standard of care in the treatment of Mr. Byrd. In preparing this opinion I reviewed the following materials made available to me by your office:

- Atlanta VA Medical Records, Telemetry, Flow sheets, Psych Records
- Baltimore VA Records
- Reports of Dr. Kumar (Neurocritical Care)
- Preliminary Deposition Transcripts of Dr. Goracy, Dr. Yepes, and Dr. Jabaley.
- Delirium Protocol
- Management & Treatment of Acute Ischemic Stroke Protocols
- VA Stroke Posters

The following report contains my opinions related to your questions. All such opinions are given to a reasonable degree of medical certainty. I reserve the right to amend or expand my opinion as more information becomes available or in response to questions at deposition or trial.

Personal Background

For a more complete listing of my qualifications, please refer to my curriculum vitae, included at the end of this report. Briefly, I am an Associate Professor of Psychiatry at the Yale University School of Medicine's Department of Psychiatry, Chair of the Department of Psychiatry for Lawrence and Memorial Healthcare, and regional Medical Director for Psychiatry and Behavioral Health for the Yale New-Haven Health System, responsible for Southeastern Connecticut and Southern Rhode Island. I received a B.S. from Yale University in Physics (1992), an M.S. from the University of California Davis-Lawrence Livermore National Laboratory, in Engineering and Applied Science (1993), and a Ph.D. (1999) and M.D. (2000) from Mount Sinai School of Medicine. I trained in psychiatry at the Yale University School of

Medicine between 2000-2004 and completed a Substance Abuse Fellowship at Yale between 2003-2004.

I have been active clinically since graduating medical school in 2000 and have broad expertise in clinical psychiatry. I am also an internationally recognized expert in research in sleep and substance use disorders and am the Vice President of the Winter Conference on Brain Research, an annual, international conference that attracts the world's most accomplished neuroscientists. In my clinical practice, I see patients similar to Mr. Byrd and have experience, education, training, and knowledge of the standards of care applicable to Mr. Byrd's circumstances.

Testimony History
In the last four years I have testified at trial or deposition in the following cases:

- Estate of Norman Livingston vs. Coca-Cola Enterprises, Worker's Compensation Commission, First District, Hartford CT (2017)
- DiPillo vs. Brattleboro Retreat, United States District Court, State of Vermont (2017)
- State (CT) vs. Huynh (2018) (trial)
- State (CT) vs. Mathis (2017) (trial)

Fee Schedule
$400/hour.

Basis for Opinion
Mr. Tommy Byrd presented to the Atlanta VA on November 15, 2016 for back surgery. According to available medical records, Mr. Byrd appeared to be cognitively intact, living on his own, and engaged meaningfully in social activity (e.g. having a girlfriend) at that time. The following information from the medical chart, organized chronologically, forms the basis for the analysis and opinion offered below.

November 15, 2016
Following surgery, at 18:46, Dr. Jabaley enters a note in Mr. Byrd's chart: "Was passing through the ICU when I found the patient confused and agitated with our nurses attempting to reorient him. Brief exam revealed obvious features of hyperactive delirium."[1] Dr. Jabaley testified that at some point after the surgery, either in the PACU or the ICU, Mr. Byrd had an acute change in mental status. Jabaley Deposition, pg. 28–29.

Later that night, Dr. Sivakumar, PGY 1 Medicine Resident, saw the patient for "agitation." Dr. Sivakumar performed a physical examination of Mr. Byrd, which found Mr. Byrd to be "alert, oriented to person, not place or time. Had to be re-oriented. Pt likely was in hyperactive delirium." Dr. Sivakumar notes "No head imaging available during this admission."[2] The record notes a stat EKG was taken which revealed a QTC of 467 without any significant arrhythmias or

[1] 1426

[2] 1425

ST changes. However, the EKG tracing also notes "Probable left atrial abnormality" and "LVH with secondary repolarization abnormality."[3]

In these VA records, when a resident writes a note and it is reviewed by supervising physicians, the note is electronically signed in a section titled "Receipt acknowledged by:" The electronic signatures are date- and time-stamped. However, this note by Dr. Sivakumar does not have any supervising physician signature. Standard of care requires that all residents are supervised such that the care they provide and their documentation of that care is reviewed by an attending physician on the medical staff.

Nov. 16, 2016

At 01:23, a repeat EKG also showed "Probable LVH with secondary repol abnrm."[4]
A nurse noted that the "Patient alert oriented to person and place. Patient restless overnight postoperatively until 3AM. Psychiatry consulted for management of psych medications postop." The nurse noted that Mr. Byrd could rate his pain level and instructed Mr. Byrd to use a spirometer 10 times per hour.[5]

At 8:09 AM, Dr. Trygve Dolber, a PGY2 Psychiatry resident saw Mr. Byrd. He noted that the patient had been disregarding commands and trying to "pull out his lines and drains since he woke up from anesthesia around 6:30pm yesterday. … On interview he is restless, oriented to self and type of building only and ignores other questions. …He has already been worked up medically and his only abnormality is an elevated CPK. Per remote charts, his only psychiatric diagnosis is 'depression' but his outpatient medications include citalopram, nortriptyline, trazodone, Depakote, and Geodon." Mr. Byrd had a BP of139/92, and 67 HR. Under plan, Dr. Dolber states that Mr. Byrd was "consulted for hyperactive delirium in the context of recent surgery and anesthesia, ICU stay and a missed dose of several medications. Medical workup has been negative."[6]

At 13:41, a physical therapist noted that "patient difficulty to understand due to mumbling." Physical exam revealed "A&O x2? Knew Atlanta VA and able to follow simple commands but easily distracted. … Patient continues to be very confused."[7]

At 14:11, a nurse practitioner psychiatry note stated a "brief exam revealed obvious features of hyperactive delirium." The NP assessed Mr. Byrd as having: "MDD, Alcohol dependence- in remission, Tobacco Use D/O- in remission, Bipolar II"[8]

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[3] 1447

[4] 1448

[5] 1399

[6] 1397 to 1399

[7] 1389 to 1391

[8] 1382 to 1386

Nov. 17, 2016

At 08:43, an orthopedic surgery note stated that "Patient oriented this morning. In excellent spirits. Ready to go home. Pain well controlled. No acute events overnight."[9] Similarly, at 09:15, a social worker note stated that "the veteran was oriented x's four with logical and goal oriented thought process."[10]
But then at 10:25, a social work noted "The veteran then appeared confused as evidenced by looking at SW and no longer answering questions and asking, 'who are you' multiple times."[11]

Nov. 18, 2016

At 08:30, a nursing note stated: "Patient alert oriented to persona and place, but still restless."
But by 22:36, a nursing note indicated, "patient awake in bed, alert and oriented x3." A physical exam revealed weakness in his gait.[12]

Nov. 19, 2016

At 08:00, a nursing note stated "aox2-3, cooperative with care." His gait was noted as weak and "very unsteady." At this point, he was "Sinus tach[ycardia] with HR 105-115 resting, occasionally goes up to 125-140."[13]

Nov. 20, 2016

At 08:36, Mr. Byrd was still "aox2-3 … sinus tach with HR 110-120 on cardiac monitor, afebrile."[14] Gait still unsteady. An addendum at 19:03 stated "gait unsteady, still aox3, with forgetfulness."

Nov. 21, 2016

A 07:20 orthopedic surgery note found that the patient still had "sinus tach with HR 110-120."
At 10:20, a critical care team note was entered, yet no neurologist was consulted.[15]
By 20:39, the nursing notes continued unsteady gait, and heart rate at 110-115. An addendum states that HR increases to 141 with activity but comes down to 108 when calm.[16]

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[9] 1372 to 1374

[10] 1372

[11] 1371

[12] 1363, 1356

[13] 1353 to 1355

[14] 1345

[15] 1332 to 1334

[16] 1327 to 1330

Nov. 22, 2016

The next morning, Mr. Byrd continued to be tachycardic.[17] At approximately 11:01, Mr. Byrd became agitated and yelled out "I've got to get out of here." A Code 44 was called and MD was notified. He displayed confusion. He was oriented to time, but unable to say year. A psychiatry consult was ordered.[18]
At 12:45, Dr. Boyer saw Mr. Byrd for a psychiatry consult. He noted that Mr. Byrd was slurring his words and noted the following for orientation - person: "Pool dog train is bag going to"; place: "I'm people ton"; situation: "know the human"; date: "human". He described Mr. Byrd's speech as "mumbled/slurred, non-spontaneous", his affect as "flat", and his thought process as "rambling, incoherent", noting that Mr. Byrd was "unable to follow any verbal commands". Mr. Byrd "not appearing to respond to internal stimuli." Judgment was impaired and insight was absent. Mr. Byrd was diagnosed with Delirium secondary to "another general medical condition."[19] An EKG taken at 14:57 returned abnormal, sinus tachycardia, probable left atrial abnormality, probable left ventricular hypertrophy with secondary repolarization abnormality.[20]

Neurology was consulted and Mr. Byrd was seen by a second-year Neurology resident at 16:23. The Neurology resident's note was co-signed by the staff physician the next day (11/23) at 12:45. The resident's assessment was there was "No focal deficit to suggest CVA and no evidence or risk factors for seizure activity." The resident further indicated that "no neurologic imaging indicated at this time" and "defer EEG."[21]

By 18:01, Mr. Byrd continued to remain tachycardic, but the plan was to continue to monitor.[22] Because of his condition and behavior, Mr. Byrd was placed on 1:1 observation.[23]

Nov. 23, 2016

At 14:31, Mr. Byrd was seen again by the second-year Neurology resident. The note stated he discussed the patient with his supervisor, but the supervisor did not cosign the note until the next day at 09:45. On this exam, Mr. Byrd was still disoriented. The note states that the "patient has speech deficits that are concerning in the setting of otherwise alert and awake. Recommend MRI Brain without contrast."[24] At 15:18, he was seen by psychiatry. "A&Ox1. Continues to ramble and be incoherent." He was continued to be diagnosed with "Delirium secondary to another

[17] 1320

[18] 1326, 1319

[19] 1305 to 1311

[20] 1449

[21] 1303 to 1305

[22] 1302 to 1303

[23] 1295

[24] 1282 to 1284

general medical condition (We do not feel that the patient's altered mental state is volitional in anyway.)" and bipolar disorder.[25]

Nov. 24, 2016

Mr. Byrd continued to display the same symptomology (speech deficits, weakness, and tachycardia).[26]

Nov. 25, 2016

At 12:20, Mr. Byrd underwent brain MRI that revealed "Acute to early subacute subtotal left MCA infract affecting the territory associated with inferior division branch, seen with associated findings on MRA."[27]

At 13:33, Mr. Byrd saw neurology, which acknowledged only minimal improvement. They discussed with the family the findings of the MRI noting: "This fits with his receptive > expressive aphasia and subtle right sided weakness, which was more apparent after the Haldol wore off. Mechanism of cryptogenic at this point although suspect cardioembolic. Degree of impairment is significant. Recommend complete stroke evaluation." They started him on Aspirin and Crestor, and recommended transthoracic echocardiogram, carotid ultrasound, telemetry and other workup.[28]

Comments on the treatment of Mr. Byrd

The standard of care requires medical providers to consider and rule out conditions which are treatable and present risk of morbidity or mortality. The professional practice of "differential diagnosis" includes considering all conditions that could be causative in the patient's presentation. Moreover, I agree with Dr. Goracy, Dr. Jabaley, and Dr. Yepes' testimony that "providers should rule out life-threatening causes on a patient's differential diagnosis."[29] The conditions that may be causative are considered in light of their likelihood of being causative, but also in light of the both the degree and imminence of harm or potential harm each condition could bring to the patient. This practice is designed to ensure that the conditions that present the most risk to patients are considered and either ruled-out or treated quickly so that the risk of harm is reduced. Not considering and ruling out (or treating) a likely cause of a patient's signs or symptoms of illness is a breach in the standard of care. Not considering and ruling out (or treating) a likely cause of a patient's signs or symptoms of illness *in a timely fashion*, particularly when time is of the essence to prevent morbidity or mortality, is a breach in the standard of care. The witnesses and several of the policies make it clear that stroke requires emergent and

[25] 1280

[26] 1267, 1268

[27] 1103 to 1104

[28] 1242 to 1244

[29] Yepes pg. 31, Dr. Jabaley, pg. 34, Goracy pg. 44

immediate action.[30] The VA's Stroke Policy requires "Patients identified on any inpatient unit with symptoms and signs consistent with [Acute Ischemic Stroke] must be evaluated within 10 minutes by the corresponding physician followed by activation of the Acute Stroke Team."[31]

In the early post-operative period, Mr. Byrd was noted to have "hyperactive delirium" by a staff physician, Dr. Jabaley, who was "passing through the ICU" and performed a "brief exam". [32] It is important to note that diagnosing delirium, including "hyperactive delirium", is not a determination of the underlying pathology that contributes to a patient's presentation. A tenet of medical evaluation and practice, taught in medical school and residency, is that delirium is a presentation that is generally multifactorial in cause, and that considering and treating the underlying causes of delirium when possible is essential to treating the patient who presents with delirium. From this perspective, delirium is correctly seen as a symptom of underlying pathology and not the cause itself. [33]

This view is consistent with the Government's policies and procedures and the witness testimony. For example, the Government's delirium protocol states that "Identification of the underlying causes [is] the first step in delirium management."[34] The witnesses also testified that providers should identify the underlying causes as the first step in delirium management.[35] The medical records note that Mr. Byrd's presentation was not volitional.[36] Dr. Goracy explained that when the providers noted that Mr. Byrd had "delirium secondary to another medical condition," they meant that there's an underlying pathology in Mr. Byrd's brain that is causing his presentation.[37] Yet, as of even Nov. 23, 2016, Dr. Goracy testified that the providers had not identified the cause of Mr. Byrd's delirium.[38]

Although Mr. Byrd was noted in the early post-operative period to be experiencing delirium, Mr. Byrd was not evaluated for stroke, which information from the available records supports as having had a reasonable possibility of being causative in the delirium experienced by Mr. Byrd.

Stroke is a known risk of surgery, and stroke is well recognized as a contributing cause of delirium. Stroke is both treatable and presents a high risk for mortality or permanent disability. Importantly, the treatment for stroke is time-sensitive, so early consideration and evaluation of possible stroke is critical to reduce harm. The longer stroke-related ischemia is allowed to persist, the more severe the resultant deficits will be, and the more likely a patient will suffer

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[30] Dr. Goracy, pg. 48

[31] USAO_BYRD_11259 (Page 3 of Management & Treatment of Acute Ischemic Stroke, Sept. 14, 2016).

[32] 1426

[33] Inouye, Sharon K. "Delirium in older persons." New England Journal of Medicine 354.11 (2006): 1157-1165.

[34] Delirium Protocol, USAO_BYRD_011236 (pg. 2 of 7).

[35] Dr. Goracy, pg. 47, Dr. Yepes, pg. 28, Dr. Jabaley, pg. 35.

[36] 1308

[37] Dr. Goracy, pg. 96-97.

[38] Dr. Goracy pg. 107–108.

more significant permanent deficits. Per the medical records I reviewed regarding Mr. Byrd's treatment, stroke should have been considered early in the post-operative period, and not having done so is a breach in the standard of care.

Beyond the fact that surgery is a risk factor for stroke, and stroke is a cause of an acute change in mental status, including onset of delirium, specific indicators in Mr. Byrd's presentation – recognized and documented in the medical record - indicated the reasonable possibility of stroke as causative in his symptoms, including

1) Mr. Byrd exhibited an acute change in mental status (first documented 11/15/2016);
2) Mr. Byrd exhibited repolarization abnormality on EKG, hypertension, and persistent tachycardia (first documented 11/15/2016; see table below for heart rate);
3) Mr. Byrd exhibited gait disturbance and weakness (first documented by 11/18/2016, but possibly present much earlier);
4) Mr. Byrd exhibited aphasia (first clearly documented 11/22/2016, but possibly present much earlier, per psychiatry consult of 11/16/2016 and physical therapy consult on 11/16/2016 as well as social work note on 11/17/2016).

Providers further testified that if they suspect stroke in a patient, they should rule it out.[39]

In addition, evidence from the available medical records indicates several specific missed opportunities to recognize and/or act on Mr. Byrd's presentation as a possible stroke. The following are examples of missed opportunities about which my experience and training allows me to comment specifically, and include

a) Dr. Sivakumar – a first year medicine resident providing night-time coverage (IOD or Intern on Duty) – noted in his evaluation of Mr. Byrd on 11/15/2016 that brain imaging (e.g. MRI) had not been done. Noting the absence of the imaging indicates that Dr. Sivakumar was appropriately looking for brain imaging to help in the assessment of Mr. Byrd. None of Dr. Sivakumar, his supervising (on-call) resident, nor his supervising (on-call attending) took the action to get brain imaging or request neurology consult. It is not clear whether Dr. Sivakumar discussed Mr. Byrd's clinical situation with the supervising resident (if there was one) or the supervising attending. (In other VA notes, when a supervising provider is notified of the encounter, they are sent an alert and asked to electronically sign – in this note, no such signature or alert is found.[40]) Per nursing notes from early in the morning of 11/16/2016, the "IOD, Tele MD and Ortho on call" were all notified of Mr. Byrd's presentation. However, no physician ordered brain imaging or requested neurology consultation at that time, or provided a rationale for not doing so. Instead, psychiatry consultation was requested.

b) The initial psychiatry consultation was performed by Dr. Dolber, a second-year psychiatry resident. The consultation note does not reflect a full cognitive examination, which would be expected in the assessment of an acute change in mental status, which Mr. Byrd's

[39] Dr. Goracy, pg. 122, Dr. Yepes, pg. 47.

[40] Dr. Goracy, pg. 30-31.

presentation was. The mental status examination does document that thought process was "perseverative" and that cognition was "poor".

Perseveration is a clinical sign characterized by repetition of words or phrases. In psychiatry, perseveration is often used to describe someone being preoccupied with a particular idea or concern, and may be associated with exacerbation of primary psychiatric illnesses including schizophrenia, bipolar disorder, and other psychiatric disorders. However, fully trained psychiatrists, particularly ones working in consultation liaison psychiatry, are also familiar with true perseveration which is more literally the repetition of words or phrases that the person gets "stuck" on, often repeating several times in a row, even after the topic of conversation or other stimuli have changed. Perseveration is a sign of brain injury and is a symptom of aphasia, and stroke is the most common cause of aphasia. Dr. Dolber observed that Mr. Byrd was "perseverative" but did not further comment or act on that observation. Although perseveration is associated with progression of dementia, the acute onset of true perseveration is highly suggestive of stroke or other acute brain injury and requires prompt neurological assessment. This is also supported by the fact that Mr. Byrd had no prior history of dementia or delirium, and his providers believed his symptoms were pathological, not related to the only psychiatric history he had (depression).[41]

Cognitive assessment is multi-faceted and is an essential part of the psychiatric mental status examination. Cognitive assessment can be more or less detailed depending on clinical circumstances. When the reason for consultation is a change in mental status, detailed cognitive assessment covering different areas of cognition is necessary. Dr. Dolber documented only that "cognition" was "poor" and provided no additional assessment of cognition outside of noting the Mr. Byrd "ignores other questions". Although Mr. Byrd's presentation likely made more detailed cognitive assessment difficult, the inability to conduct a more comprehensive examination does not rule-out conditions that may be reflected in examination results that were not obtained and/or not documented.

c) The psychiatry consult performed on 11/22/2016 documents clear signs of aphasia both expressive and receptive as well as slurred speech. Dr. Goracy testified that she did not believe the patient to be aphasic at the time. However, in response to asking him his name and age, he replies, "Pool dog train is bag going to." In response to the question "Where are we right now?", Mr. Byrd replies "I'm people ton." In response to "Where are we now?" Mr. Byrd replies "know the human."[42] Moreover, the assessment notes that there is no concern that Mr. Byrd's symptoms could be volitional. In this visit, Dr. Goracy testified that stroke was on her differential.[43] Although neurology consult is listed as the sixth recommendation ("could consider neurological evaluation given teams report of sudden acute mental status

[41] Dr. Goracy, pg. 68: no history of delirium or dementia prior to Nov. 2016. In the VA system, it seems that when Dr. Goracy opens Mr. Byrd's electronic medical records, the psychiatric records are highlighted for her—so if she was not able to find any records dating back to 1999, there are likely no such records. Pg. 27-28.

[42] Goracy pg. 89-90

[43] Goracy pg. 111.

change"), in the context of what was believed to be an acute change in mental status with aphasia and slurred speech, stroke should have been considered and ruled-out.

Mr. Byrd went nearly 10 days without diagnosis or treatment of the stroke he suffered, despite exhibiting several signs of stroke throughout that time period including motor, cognitive, and physiological signs. Factors that may have contributed to this breach in the standard of care include an error in how assessment and treatment of delirium was approached and a reliance on physicians still in residency training along with an absence of direct attending physician involvement.

Delirium is a **symptom** of an underlying pathology.[44] Even more importantly, new onset delirium is an acute change in mental status, which is a focal neurologic deficit.

The VA physicians denied that delirium can be caused by stroke.[45] However, Dr. Jabaley testified that certain types of stroke can cause conditions that are similar to delirium.[46] Dr. Jabaley is correct if one is following the medical literature. A meta-analysis in 2012 found that delirium is found in around 26% of stroke patients.[47] Another review article noted that one of the modifiable risk factors for delirium is "Acute neurological diseases (for example, acute stroke [usually right parietal]…"[48] Stroke is a modifiable risk factor because if identified in a timely fashion, stroke can be treated. Importantly, Mr. Byrd's stroke, per his MRI findings, were in the "parietal lobe, involving the cortex and subcortex. … findings are compatible with acute to subacute subtotal MCA territory infarct."[49] Dr. Goracy and Dr. Yepes further declined to characterize delirium as a "focal neurologic deficit."[50] In contrast, the Fong review article notes, "Neuroimaging is performed in selected [delirium] patients to exclude a focal structural abnormality, such as an acute stroke, that might mimic delirium in its presentation." (pg. 213)

In another 2010 article in the journal Continuum, on delirium, under the section "Ruling out a Focal Lesion and CNS Infection," it's noted that "Ischemia caused by occlusion of the inferior division of the middle cerebral artery, leading to Wernicke aphasia without significant motor deficits, can be mistaken for delirium by the unsuspecting clinician. In most cases, a careful neurologic examination should reveal a focal deficit … If concern for ischemic stroke and large vessel occlusion exists, a CT scan of the brain with CT angiography or MRI with MR

[44] Inouye, Sharon K. "Delirium in older persons." New England Journal of Medicine 354.11 (2006): 1157-1165.

[45] Dr. Yepes, pg. 29.

[46] Dr. Jabaley, pg. 41.

[47] Carin-Levy, Gail, et al. "Delirium in acute stroke: screening tools, incidence rates and predictors: a systematic review." Journal of neurology 259.8 (2012): 1590-1599.

[48] Fong, Tamara G., Samir R. Tulebaev, and Sharon K. Inouye. "Delirium in elderly adults: diagnosis, prevention and treatment." Nature Reviews Neurology 5.4 (2009): 210.

[49] 1104

[50] Dr. Goracy pg. 50, Dr. Yepes, pg. 44-45.

angiography should be obtained."[51] Importantly, the MR showed that the inferior division of the MCA was the exact location of Mr. Byrd's stroke[52] and the records show that one of Mr. Byrd's residual deficits following this stroke is Wernicke's aphasia.[53]

Similar to the VA Delirium protocol, the Douglas 2010 article notes upfront: "Delirium is a commonly encountered clinical problem, and contrary to popular belief, should be treated as an acute neurological emergency … Because the treatment of delirium rests on the identification and treatment of the underlying illness, the astute clinician must tease apart these various possibilities with a careful history and physical examination and judicious use of laboratory tests and imaging studies." The VA physicians' approach to Mr. Byrd's delirium reflected a sense that delirium was pathology to be treated with at best partial attention paid to determining the underlying pathology. Despite the many signs indicating a possible stroke, there was no effort to rule-out stroke until Mr. Byrd received the MRI on November 25, 2016. Even in the absence of others signs of stroke, like the aphasia, weakness, gait disturbance, and cardiovascular signs that Mr. Byrd experienced, new onset delirium warrants consideration of whether a neurocognitive disorder like stroke is causative. According to the DSM-V, "The essential feature of delirium is a disturbance of attention or awareness that is accompanied by a change in baseline condition that cannot be better explained by a preexisting or evolving neurocognitive disorder (NCD),"[54] and "Delirium often occurs in the context of an underlying NCD."[55] Of course, stroke is among the neurocognitive disorders that the DSM-5 requires the providers consider.[56] And under Diagnostic Markers, the DSM-5 notes: "Structural neuroimaging, using MRI or CT, has an important role in the diagnostic process. There are no other established biomarkers of major or mild vascular NCD."[57]

Similarly, the American College of Radiology's (ACR) Imaging Appropriateness Criteria on Focal Neurologic Deficits also considers an acute change in mental status like new onset delirium to be a focal neurologic deficit. The ACR scores MRI of the head an 8/9 on their appropriateness criteria scale for "Unexplained acute confusion or altered level of consciousness." They note that "Both CT and MR may be necessary," with the CT also scoring an 8/9.[58] (Please note that the ACR Appropriateness Criteria for Acute Mental Status Change,

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[51] Douglas, Vanja C., and S. Andrew Josephson. "Delirium." CONTINUUM 16.2 (2010): 120-134.

[52] 1104

[53] USAO_BYRD_000292, Health Summary: "Left MCA Inferior division stroke of unclear etiology with residual cognitive impairment in language (wernicke's aphasia) and memory."

[54] American Psychiatric Association. Diagnostic and statistical manual of mental disorders (DSM-5®), pg. 599 American Psychiatric Pub, 2013.

[55] DSM-5, pg. 600.

[56] DSM-5, pg. 621.

[57] DSM-5, pg. 623.

[58] Wippold, F. J. "Focal neurologic deficit." American Journal of Neuroradiology 29.10 (2008): 1998-2000.

Delirium, and New Onset Psychosis also similarly classifies MR imaging—however, since it was published in 2019, I am using an earlier version published before Mr. Byrd's treatment.[59])

These positions are in accordance with the peer reviewed literature. For example, one journal article notes:

> A thorough neurologic examination is also necessary for both the diagnosis of delirium and identifying possible causes of delirium. The authors recommend a low threshold for performing a National Institutes of Health Stroke scale/score as part of the neurologic assessment because "confusion" could in fact be aphasia or hemineglect. There is evidence to suggest that strokes in the elderly are less aggressively managed at onset with less use of MRI and referral to stroke units.[60]

The summary of this article includes the following points:

- Suspect delirium if patient has chief complaint of "altered mental status" or report of change from baseline in mental status/behavior.
- Once delirium is diagnosed, acknowledge prompt evaluation for underlying life threats.
- Perform a comprehensive physical examination to identify potential causes, including trauma evaluation and stroke scale evaluation.
- Treat underlying cause of delirium as appropriate while addressing symptoms of delirium with nonpharmacologic means.
- Maintain low threshold for admitting patient with delirium for aggressive management given their high mortality and morbidity.

Although other factors besides stroke may have contributed to Mr. Byrd's experience of delirium, it is not sufficient for providers to rule in pharmacological causes if they have not **ruled out** stroke, particularly given the various signs of stroke that were evident in available records. Dr. Goracy admits in her deposition, "when you have two things that present similarly, you have to rule out the life threatening ones"[61] Additionally, the literature notes "Never assume that acute delirium is caused by pre-existing psychiatric disease."[62] Failure to rule out and treat stroke can lead to permanent brain damage, as appears to be the case in Mr. Byrd's situation.

Likely contributing to the deviation from the standard of care was the reliance on resident physicians in Mr. Byrd's care. As the treating doctors testified, they have a responsibility to

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[59] Luttrull, Michael D., et al. "ACR Appropriateness Criteria acute mental status change, delirium, and new onset psychosis." Journal of the American College of Radiology 16.5 (2019): S26-S37.

[60] Wilber, Scott T., and Jason E. Ondrejka. "Altered mental status and delirium." Emergency Medicine Clinics 34.3 (2016): 649-665.

[61] Goracy pg. 54-55, pg. 122. Dr. Yepes also agreed that when you have two possible causes of stroke symptoms, you should still rule out stroke. Pg. 47.

[62] Ch. 269, Mary Louise Martin MD & Jorge A. Ferandez MD, "Never Assume That Acute Delirium is Caused by preexisting psychiatric disease." in Mattu, Amal, et al. Avoiding common errors in the ED. Lippincott Williams & Wilkins (1st Ed. 2010).

supervise and train residents to prevent mistakes in medical care.[63] First year medical residents in mid-November have approximately four and a half months of experience as physicians of any sort, and depending on the rotation schedule may have only weeks or less in their current unit. Psychiatry residents generally do 6 months or less of psychiatry work in their first year of training, and typically have no experience as a physician on a psychiatry consult service when they are assigned to that service for a brief rotation (sometimes as short as 2 months) in their second year. Similarly, despite neurology being a significant part of psychiatry board certification, formal training in neurology during psychiatry residency is also often limited to two months. A second-year psychiatry resident in November doing consult liaison psychiatry could have between zero and two months experience in neurology, between zero and two months experience in consult psychiatry, and less than one year of any/all psychiatry experience as a physician. Reliance on resident physicians to be responsible for performing the examinations on which critical, time-sensitive decisions are made increases the likelihood of non- or mis-recognition of the signs and symptoms of illness and increases the likelihood of non- or mis-appreciation of the relevance of signs and symptoms of illness and their further evaluation and treatment. Residents early in training may also be less likely to order specialized diagnostic evaluations and initiate treatments. And even Dr. Goracy had only a few months' experience after her fellowship when she was supervising residents in Nov. 2016.[64]

Table of Mr. Byrd's heartrate (HR):

Date/Time/Record#	**HR**	**Tachycardia?**
11/15 07:25, 1384	67	NORMAL
11/15 19:21, 1425	101	✓
11/17 08:43, 1373	113	✓
11/17 20:15, 1366	147	✓
11/18 11:23, 1361	147	✓
11/19 08:00, 1353	104-110	✓
11/19 08:43, 1355	140	✓
11/19 11:32, 1352	104-110	✓
11/20 08:36, 1345	110-120	✓
11/20 10:22, 1344	104-110	✓
11/21 07:20, 1338	110–120	✓
11/22 10:55, 1320	110-120	✓
11/22 14:15, 1304	125	✓
11/22 20:59, 1296	108	✓
11/23 07:57, 1287	119	✓
11/23 11:53, 1279	114	✓
11/23 19:42, 1270	109	✓
11/24 07:03, 1274	100-115	✓
11/24 07:34, 1261	109	✓
11/24 20:05, 1256	114	✓
11/25 07:46, 1254	110	✓

[63] Goracy pg. 36, Yepes, pg. 21.

[64] Goracy pg. 14.

Date/Time/Record#	HR	Tachycardia?
11/25 08:48, 1246	110	✓

Conclusion

In summary, I believe to a reasonable degree of medical certainty that providers at the Atlanta VA between 11/15 and 11/25 failed to meet the standard of care in the diagnosis and treatment of Mr. Byrd, and that failure resulted in Mr. Byrd suffering significant & permanent cognitive deficits.

In this case, I believe the VA placed too much responsibility on first and second year residents without sufficient oversight by providers following the standard of care. Secondarily, an initial "brief exam" was conducted by a staff physician, Dr. Jabaley, as he "was passing through the ICU" and based on that exam, diagnosed Mr. Byrd with hyperactive delirium.[65] That diagnosis, having been placed in Mr. Byrd's chart - and treated as pathology rather than symptoms of pathology the cause of which needed to be evaluated and treated - continued to follow Mr. Byrd throughout his hospital stay, without ruling out stroke as a cause until Nov. 25, 2016, when he had the MRI/MRA.

Sincerely,

Peter Morgan, M.D., Ph.D.

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